Plan

• Discuss Bag implementations
  – you did bring your homework, right?
• Describe project 2
• Discuss Observer design pattern
• Coming days
  – Decorator/Adapter design pattern
  – Visitor design pattern
  – Concurrency
• Google is coming to campus next week
• Wednesday, Oct 3rd
  – 1:30pm How to prepare for technical interviews workshop
  – 3-5pm Google Lounge
  – 6-8pm talk
Bag discussion

• First, class discussion
• Form up into groups of 2 or 3
  – don’t pair up with your buddy or dorm mate; talk to someone you don’t know well
  – discuss
Discussion topics

- Bugs
- Semantics that aren’t clear from documentation
- Violations
- Efficiency
- Design choices
- Iterator
Bugs

• retainAll(Bag other)
  
  ```java
  if (1 <= otherCount && otherCount <= myCount) {
    excess.add(current, myCount - otherCount);
  } else {
    excess.add(current, myCount);
  }
  ```

• should be
  
  ```java
  if (1 <= otherCount) {
    if (otherCount <= myCount)
      excess.add(current, myCount - otherCount);
  } else {
    excess.add(current, myCount);
  }
  ```
Project 2

• We will provide you with one good implementation and 3 bad implementations of the Observer pattern
• You need to write test cases
• We have another 3 good implementations and 20 bad implementations waiting in the wings
• Your test cases need to discriminate the good and bad implementations